

## SUCCESSFUL SURGICAL REMOVAL OF CALCIFIED MASS IN AN ASIAN ELEPHANT (*Elephas maximus*) UNDER XYLAZINE AND KETAMINE ANAESTHESIA

N. AHMED<sup>1</sup>, J. AHMED<sup>2</sup>, K. G. BASIL<sup>3</sup>, H. M. FARHAD<sup>4</sup>, S. DOLEY<sup>5</sup>, N. KHATUN<sup>6</sup> & K. BHARALI<sup>7</sup>

<sup>1</sup>Veterinary Officer, Animal Resources Development Department, Unakoti, Tripura, India

<sup>2,3,4</sup>M. V. Sc. Scholar, College of Veterinary Science, AAU, Khanapara, Assam, India

<sup>6</sup>Veterinary Officer, Animal Resources Development Department, Khowai, Tripura, India

<sup>5,7</sup>Junior Research Fellow, College of Veterinary Science, AAU, Khanapara, Assam, India

### ABSTRACT

*An Asian elephant of 20 years old was presented with a growing calcified mass on lateral side just below the elbow joint of left front limb. The mass was removed surgically under Xylazine-Ketamine anaesthesia in standing position. The elephant recovered uneventfully.*

**KEYWORDS:** Asian Elephant; Calcified mass; Surgery; Xylazine & Ketamine

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### INTRODUCTION

Pathological calcification is a common process in wide variety of diseases. Local calcification occurs when calcium deposited in dead (necrotic) or dying tissue. It mainly occurs in focal area of body. Local calcification in animals occurs in areas of necrosis whether coagulative and caseous type. Sites of local calcification are all abscesses, degeneration, necrotic portion of tumor, dead parasite and parasitic lesions, necrotic ganglionic cells, necrotic renal tubules, areas of infarction, focal pads of dogs and thrombi (Vegad, 2007). The present report records successful surgical removal of local calcified caseous mass in an Asian elephant (*Elephas maximus*).

### Case History and Clinical Findings

A male elephant, "Raju Bahadur" of 20 years of age weighing about 4000 kg was presented with a very hard local calcified mass on lateral side just below the elbow joint of left front limb. The owner reported that the animal had an external injury and abscess six years before and with time a lump was seen over the affected area. The lump was continuously growing with his age. As the lump is growing, the owner asked for surgical removal of the lump to avoid further consequences.

### Anaesthesia and Surgery

The surgery was performed under 400 mg of Xylazine and 320 mg of Ketamine intramuscularly using a 16 gauge needle on the right triceps. The surgical site was also locally anaesthetized with 2% Lignocaine Hydrochloride solution. The surgery was performed aseptically in standing position (Figure 1). Elliptical incision was made and the calcified mass was removed by standard surgical technique (Figure 2). During the surgery, the

elephant was injected with Taxableed (Tranexamic Acid) to check bleeding and Curadex (Dexamethasone Sodium Phosphate) parentally. Following operation, the wound was washed with 1:1000 KMnO<sub>4</sub> solution and sealed with providone iodine gauze. The routine post-operative procedures included injections of Intacef (Ceftriaxone), Megludyne (Flunixin Meglumine) and Anistamin (Chlorpheniramine maleate) for 7 consecutive days parentally along with other supportive therapy. The animal was dressed locally with providone iodine. The sutures were removed in due course.



**Figure 1: Surgical Removal of calcified Mass**



**Figure 2: Mass Removed During Surgery**

## RESULTS AND DISCUSSIONS

The onset of anaesthesia was marked ten minutes after injection. The elephant showed signs of anaesthesia by diminished tail, trunk, ear movement, dilatation of pupil, partial relaxation of penis, dribbling of urine and complete onset of anaesthesia with snoring sound. This was in accordance with the findings of others (Nigam *et al.*, 2006; Nath *et al.*, 2010). The action of anaesthesia was lasted for 3 hours which was also supported with the observation of Sharma, (1997). No adverse effect of photosensitization with the use of Xylazine-Ketamine combination as reported by Cheeran, (2002). The use of these drugs combination was to obtain reduced drug dose as Nayer *et al.*, (2002), opined that combined use of Xylazine and Ketamine could reduce the individual drug dose up to 50% in Asian elephant. Combination of Xylazine and Ketamine minimized the undesirable effect and induced balanced sedation supporting retention of vital organs. Ketamine combination could mildly mitigate the hypotension brought by Xylazine, while potentiating its sedative action, hence recommended as combination for use in elephant (Sarma and Pathak, 2001). The surgery was performed in standing

position even though the recovery was smooth and uneventful as reported by Sharma, (1997). The wound took about two month to heal completely. The sedative actions of Xylazine-Ketamine and post operative results were satisfactory in this clinical case.

## **CONCLUSIONS**

Pathological calcification is associated with varieties of diseases. It may cause temporary to permanent damage if not treated promptly. The present study reports successful surgical removal and treatment of calcified growing mass in an Asian elephant in which surgery was performed under Xylazine-Ketamine anaesthesia in standing position.

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